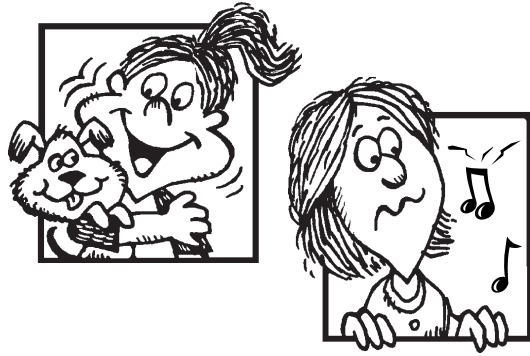


Noise and Your Ears: Worth Hearing About!



How does sound make you feel?
Unscramble these words:

HYAPP _____

DAS _____

GHENREDIFT _____

PSEYLE _____

TLEAR _____

CRATIPOTI _____

LADEXER _____

YONDENA _____

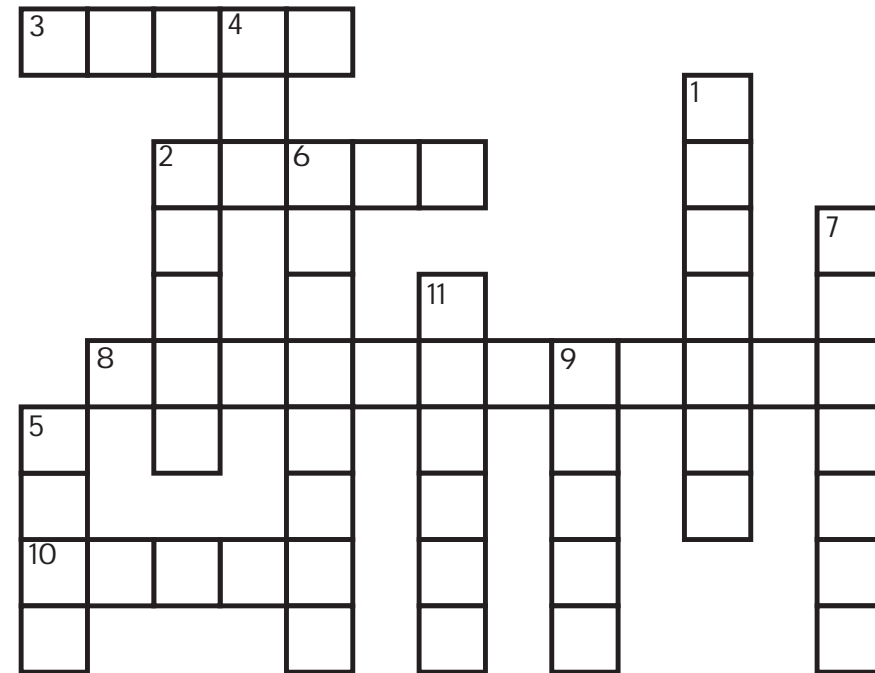
ADM _____

CEDITXE _____

CEGINTERE _____

VITTOMEDA _____

The Anatomy of Hearing Crossword Puzzle



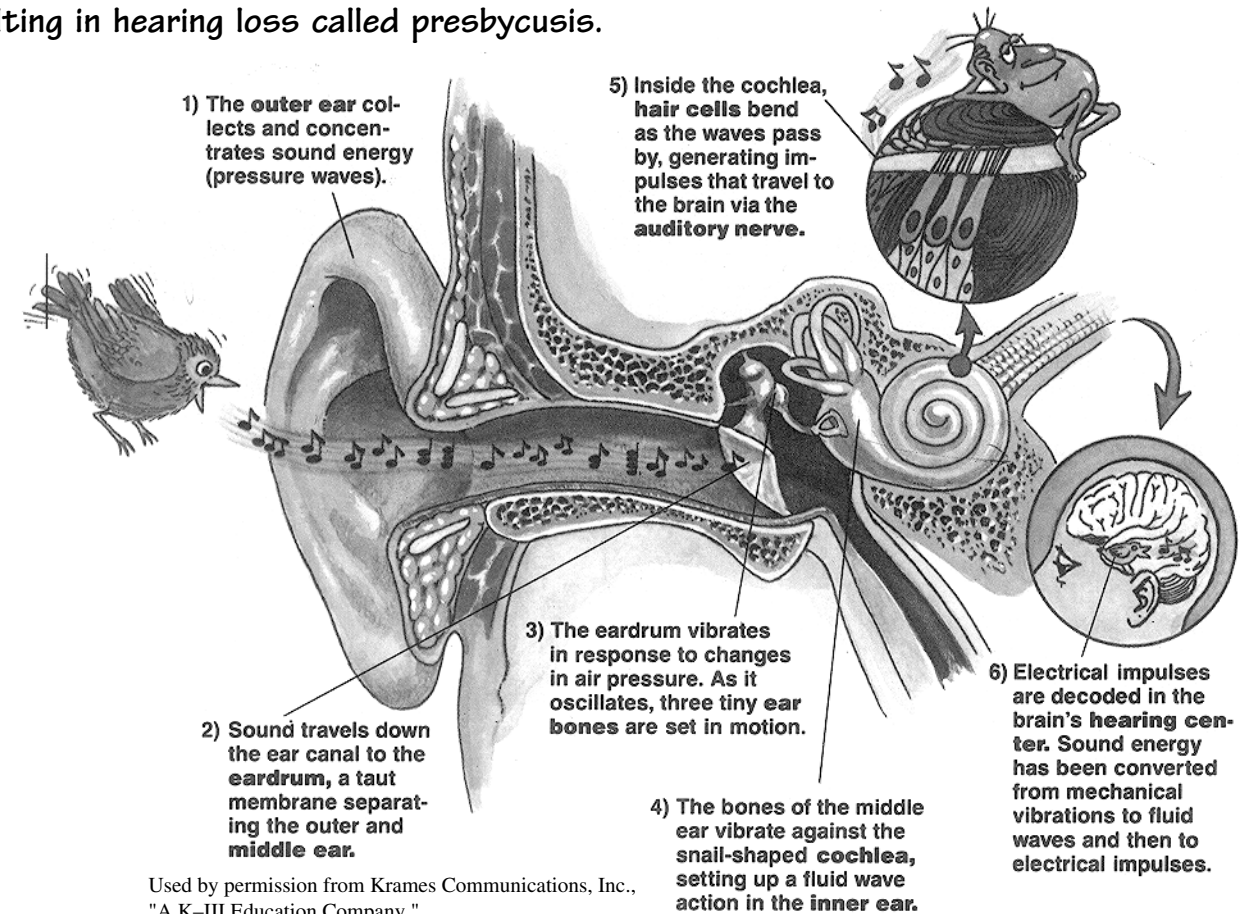
Across

2. Electrical impulses are decoded and interpreted as sound in the hearing center of the _____.
3. The _____ ear collects and funnels sound to the eardrum.
8. The inner ear contains a complex system of fluid-filled channels called _____ canals buried in the temporal bone.
10. Hair cells in the _____ ear respond to vibrations by generating electrical nerve impulses.

Down

1. The bones of the middle ear vibrate against the snail-shaped _____, setting up a fluid wave action in the inner ear.
2. As the eardrum vibrates, three tiny _____ are set in motion.
4. The _____ is a complex organ that collects sound energy and changes it into electrical impulses the brain can understand.
5. Healthy inner ear _____ cells are the key to good hearing.
6. Inside the cochlea, hair cells bend as the waves pass by, generating impulses that travel to the brain via the _____ nerve.
7. The _____ is a taut membrane separating the outer and middle ear.
9. Sound travels down the ear _____ to the eardrum.
11. The _____ ear contains three tiny bones called ossicles.

The outer ear collects sound energy and funnels it into the middle ear where it is transformed into mechanical vibrations. These vibrations, or oscillations, enter the fluid-filled inner ear as undulating waves. It's in the inner ear that thousands of hair cells change the mechanical energy of the waves into electrical impulses that the brain interprets as sound. We start life with a fixed number of hair cells. As we age, they begin to die off naturally, resulting in hearing loss called presbycusis.



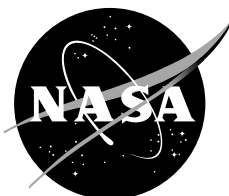
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Noise and Hearing

Match these words with their definitions:

1. audiogram
2. presbycusis
3. tinnitus
4. decibel
5. noise

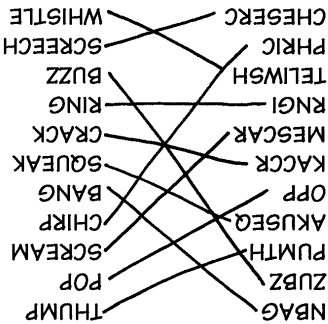
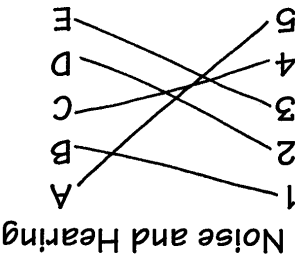
- A. Unwanted sound
- B. A chart of your hearing thresholds (measured in decibels) for tones at different frequencies
- C. Unit of measurement for sound intensity, or loudness
- D. Hearing loss caused by the natural aging process
- E. A constant noise (ringing, bugging, or whistling) that originates in the inner ear



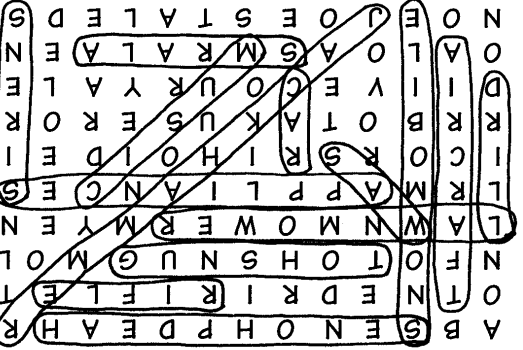
National Aeronautics and
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Acoustical Testing Laboratory
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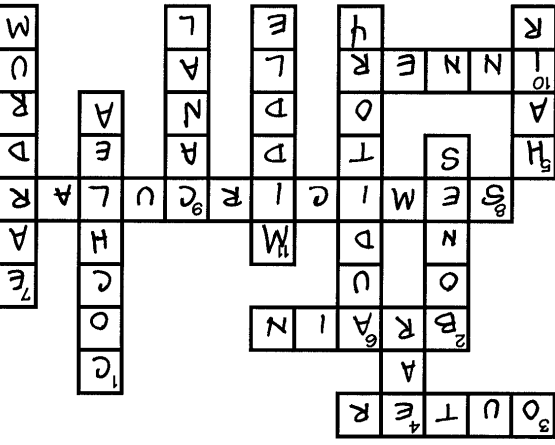
Very loud noises
can be harmful.
Tell an adult if
your ears hurt.



The Sounds of Noise

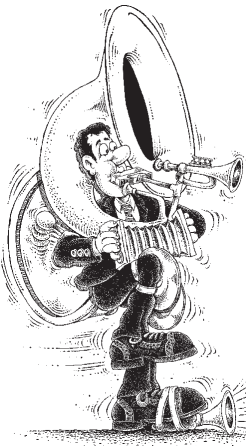


Familiar Sources of Noise

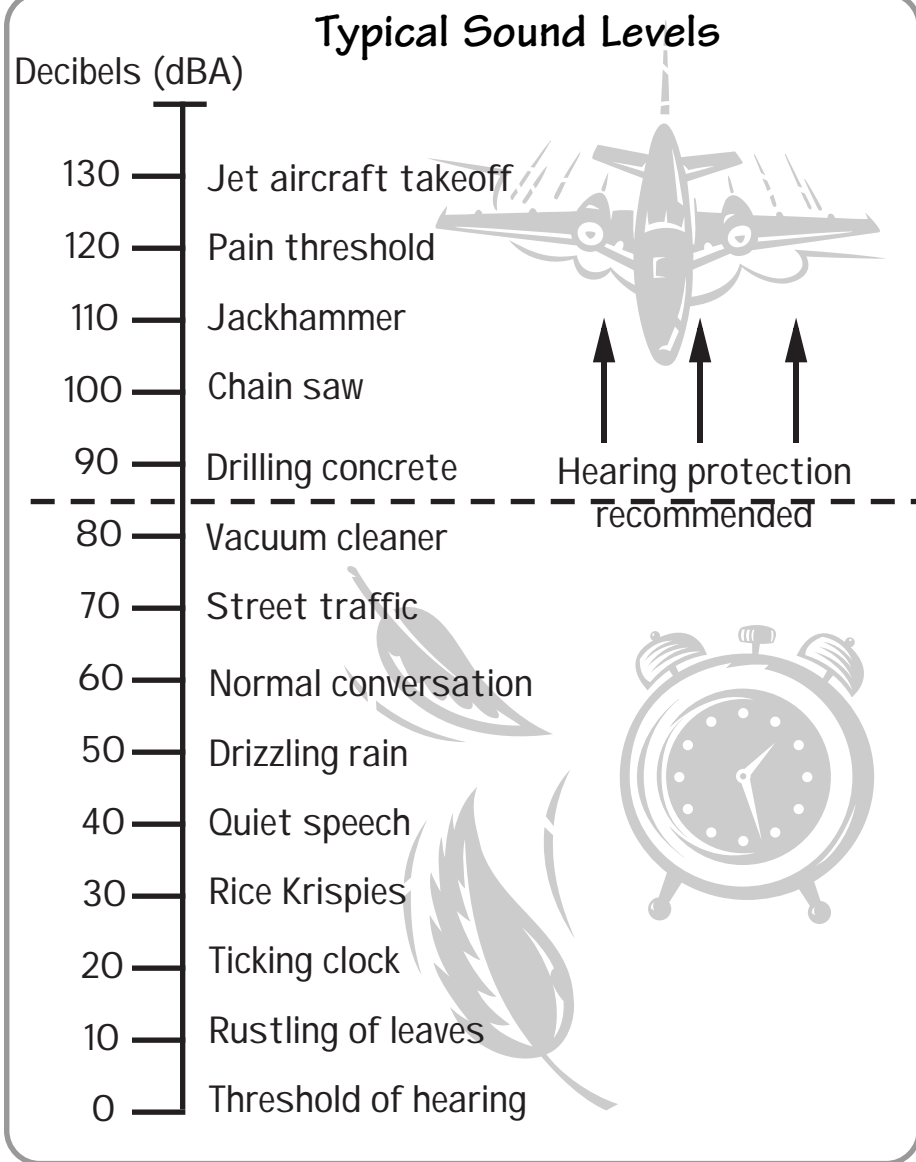
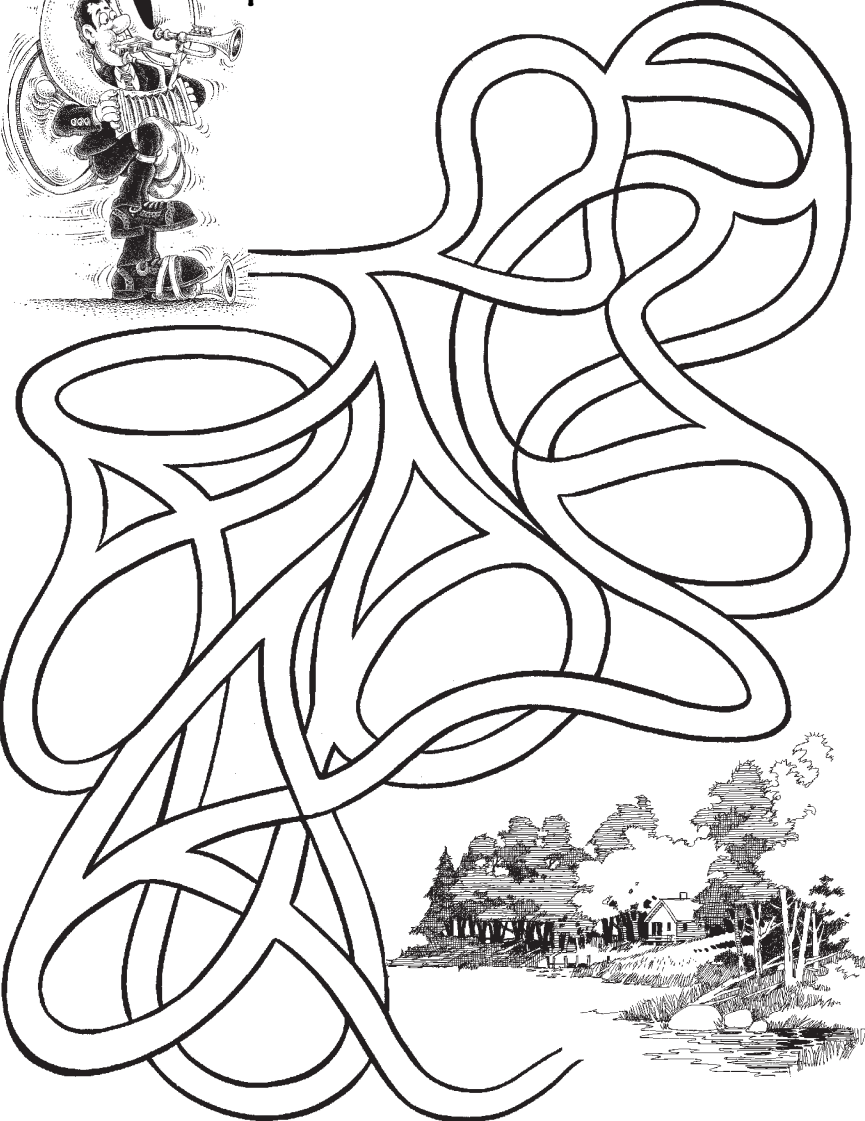


The Anatomy of Hearing

Answers



Help Joe find a quiet
place to rest his ears.



Familiar Sources of Noise Word Search

Find and circle the words in the list.
Each is hidden horizontally, vertically,
or diagonally in a straight unbroken
line of letters that read forward or
backward.

- MUSIC
- APPLIANCES
- SIRENS
- ALARMS
- SAW
- DRILL
- LAWN MOWER
- AIRCRAFT
- SNOWMOBILE
- CAR
- HEADPHONES
- GUNSHOT
- RIFLE



Layout and design by Kelly Shankland.